XP-002255519

15/15 - (C) FILE CA
STN CA Caesar accession number : 1576
AN - 18:22009 CA
OREF- 18:2969g
TI - Coating composition containing phenolic resins
DT - Patent
PA - Soc. anon. dite. Progil.

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PN	GB215722		19230507	GB	

PY - 1923
AB - Wood , metal, cement or other material is coated with a compn. comprising an artificial resin such as a resin formed from PhOH and CH HCl, H_2SO_4, " mixed anhydride acid liquids" or other acid hardening agent and a filler such as talc. The resin may be liqu or in basic or alc. soln.

PATENT SPECIFICATION

Convention Date (France): May 7, 1923.

215,722

Application Date (in United Kingdom): March 10, 1924. No. 6122/24.

Complete Accepted: Dec. 11, 1924.

COMPLETE SPECIFICATION.

Improved Process of Cold Enamelling on Wood, Metal Cement or like Surfaces.

We, SOCIÉTÉ "PROGIL", a company organized under the laws of France of 10, Quai de Serin, Lyons, France, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

It is known in the manufacture of phenol-formaldehyde condensation products to treat synthetic resins derived from phenol and formaldehyde with concentrated organic acids such as lactic acid or acetic acid generally in large proportions and also traces of mineral acids such as hydrochloric acid acting as catalysts, the product, which can be used for moulding objects or for forming lacquer like coatings on objects, being transformed into a hard insoluble substance either by being allowed to dry naturally which takes some time or by the action of heat (60—100° C.) so as to hasten the drying and hardening process.

Our invention relates to a process of enamelling on wood sheet metal, cement or other surfaces in the cold state. The enamelling substance itself is obtained by treating artificial resins, obtained by the condensation of formaldehyde and phenol or its homologues, or alcoholic solutions of such resins with a substantial proportion of an acid hardening agent such as hydrochloric acid and adding a loading agent such as talc the mixture being stirred until it thickens and then applied to the surface to be coated. The presence of a loading agent prevents cracking of the enamel surface.

The enamel is applied cold on the article to be coated and the lacquer like coatings obtained are adherent to their supports, are impermeable to water, resistant to acids and to solutions containing up to 10% of a caustic base in water and are further resistant to temperatures of 100° C. or more.

The process of cold enamelling can be applied to numerous uses, particularly in motor car building, for coating wooden or metal panels, and in various industries for coating of vats, cisterns and walls of any kind.

The enamel can have any colour desired by the addition of a suitable colouring agent.

As an example, a good enamelling substance is obtained by starting with an alcoholic solution of artificial resin, in the proportion of 100 grams of resin per 70 cubic centimetres of alcohol, using as a hardening agent hydrochloric acid at from 20 to 22° Beaumé. The loading substance is talc.

The process employed is as follows:

At the time of enamelling the mixture of artificial resin solution talc and hardening agent is prepared in a sufficient quantity for the work to be accomplished, in the proportion of:

Loading substance 20% of the weight of the resin solution.

Hardening agent 12% of the weight of the resin solution.

The mixture is carefully stirred with a brush or stick, and thickens, and slight experience will enable the operator to judge the degree of thickness at which the stirring should cease.

The enamel is deposited on the surface to be coated by means of a hard brush, in a layer as even as the viscosity of the enamel allows and while avoiding partial retouchings. The evenness of the layer is partly improved by means of the same brush soaked in alcohol. The layer will then of itself assume the desired even and smooth surface.

Finally it is exposed to the air, pro-

[Price 1/-]

tected from dust and in a warm atmosphere (15° C.) without moisture.

After four days it is sufficiently hardened to allow the article to be handled and packed. After a week the hardening will be still more pronounced and the enamel will then resist a temperature of 100° C. without deterioration or softening.

Care must be taken not to prepare mixtures comprising more than 500 grams of enamel unless an easy and rapid use thereof can be made, otherwise the last portions of the mixture will be too hardened at the time of employing them.

In case the enamel thickens too much it will suffice to dilute with alcohol solution containing 90 to 92% of alcohol and 10 to 8% of water.

Results of the same kind can be obtained with sulphuric acid, or other acids mixed as stated with resins either liquid, or in alcoholic solution, or in basic solution.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. A process of cold enamelling on wood, sheet-metal, cement or other surfaces consisting in treating artificial resins obtained by the condensation of formaldehyde and phenol or its homologues by means of an acid hardening agent, adding a loading agent, stirring the mixture and applying same to the surface to be coated.

2. A process of cold enamelling on wood, sheet-metal, cement or other surfaces consisting in mixing an alcoholic solution of artificial resin obtained by the condensation of formaldehyde and phenol or its homologues with an acid hardening agent, adding a loading agent, stirring the mixture and applying same to the surface to be coated.

3. A process of cold enamelling on wood, sheet-metal, cement or other surfaces consisting in preparing an alcoholic solution of artificial resin obtained by the condensation of formaldehyde and phenol or its homologues, in the proportion of 100 grams of resin per 70 cc. of alcohol, adding hydrochloric acid at 20 to 22° Beaumé and talc to said solution, stirring the mixture until it thickens and then applying it to the surface to be coated.

4. A process of cold enamelling on wood, sheet-metal and other surfaces substantially as herein described.

Dated this 7th day of March, 1924.

For the Applicants,
HERBERT HADDAN & Co.,
Chartered Patent Agents,
31 and 32, Bedford Street, Strand,
W.C. 2, London.

Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.—1924.